



**VEIC Review of  
2018-2020 NH Statewide Energy Efficiency Plan  
Draft dated May 31, 2017**

**Performance Incentives  
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# NH Performance Incentive Framework

- ii. If the Electric Lifetime Savings %  $\geq 55\%$ , then the PI formula for both electric and non-electric measures is:

$$PI = [2.75\% \times ACTUAL] \times [(BC_{ACT} / BC_{PRE}) + (kWh_{ACT} / kWh_{PRE})]$$

Where:

**PI** = Performance Incentive in dollars

**ACTUAL** = Total dollars spent less the performance incentive

**BC<sub>ACT</sub>** = Actual Benefit-to-Cost ratio achieved

**BC<sub>PRE</sub>** = Predicted Benefit-to-Cost ratio

**kWh<sub>ACT</sub>** = Actual Lifetime Kilowatt-hour savings achieved

**kWh<sub>PRE</sub>** = Predicted Lifetime Kilowatt-hour savings

- ❑ Performance incentives are capped at 6.875% of actual expenditures
- ❑ Minimum thresholds for cost-effectiveness ( $>1.0$ ) and savings ( $>65\%$ )
- ❑ See pg. 117 of 3-year plan for details

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## Context for VEIC's Review

- We were asked to provide high-level observations on the Performance Incentive (PI) framework for consideration by the EERS Committee and other stakeholders.
  - Performance incentives are not the only influence on the NH utilities' performance. There are many factors that influence results, but our review was limited to the PI framework specifically.
  - If stakeholders identify that any changes are needed to the PI framework, we would recommend that they be phased in gradually and be based on metrics that have been well-vetted and tested.
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# Starting Assumptions

- Based on the Settlement Agreement, the 5.5% incentive target and 6.875% incentive cap cannot be modified at this stage
    - These incentive levels are less than NH's previous 12% incentive cap
    - Incentives of 5-7% are in line with other states with strong EE programs
  - Performance incentives are linked to a utility's business model. While there may be opportunities to review the NH utilities' business models and identify ways to better connect their earnings mechanisms to state policy and power sector transformation goals, VEIC's review was restricted to the PI mechanism for the EE program specifically
    - Other northeastern states like RI and NY are in the process of undertaking comprehensive reviews of utility business models as part of broader power sector transformation activities
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# Best Practices for Performance Incentive Design

- Base on third-party verified performance
  - Scale to provide higher incentives with higher performance
  - Encourage responsible stewardship of ratepayer funds
  - Avoid perverse incentives (more on this later)
  - Establish metrics that are clear, well-defined, and transparent
  - Use multiple metrics to drive results that align with state goals
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# Strengths of NH Performance Incentive Framework

- Presence of a performance incentive to motivate results
  - Presence of a lost revenue adjustment mechanism to compensate utilities for lost sales due to energy efficiency efforts
  - Lifetime energy savings and cost-effectiveness are the main components, which aligns well with NH's goals for the EERS
  - The current PI formula is clear and easy to apply
  - NH has a minimum threshold for spending on low-income customers (17%), which is an effective way to ensure focus
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# Limitations of the NH Incentive Framework

- Because utilities set goals with little input from other stakeholders, and the PI is based on self-reported results, there is a risk that the goals will not be ambitious enough to drive exemplary performance
  - Utilities can receive 100% performance incentives even if their savings attainment is only 65% of goal
    - ❑ Utilities can compensate for falling short on savings if savings are more cost-effective than anticipated
    - ❑ Best practice is to tier incentives to encourage higher levels of savings (e.g., CT's PI is 2% of program costs if utilities achieve 75% of goal, 4.5% if they achieve 100%, and 8% if they achieve 135%)
  - Setting incentives as a percentage of spending could encourage wasteful spending
    - ❑ Base incentives on budget, rather than spending, to encourage utilities to achieve results within the established budget
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# Limitations of the NH Incentive Framework

- The formula allows tradeoffs between cost-effectiveness and energy savings attainment, but savings is much more important
    - Best practice is to apply incentives to each metric separately to increase focus
    - Cost-effectiveness is already a minimum threshold requirement, which may be sufficient
  - The formula may encourage “cream skimming”
    - Both the cost-effectiveness and savings metrics encourage utilities to achieve as much savings as possible for the least amount of money
    - There are no metrics tied to goals such as market transformation, comprehensiveness, or reaching hard-to-reach sectors like low-income customers
  - Electric utilities get a lower PI if less than 55% of savings come from electric savings as a % of total energy savings. This could discourage more comprehensive, fuel-neutral services
    - This could discourage electric utilities from aggressively serving low-income customers, who typically have high thermal savings, although the minimum spending requirement offers some protection.
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# Consider Additional Metrics

- “Three main elements of progress include: market transformation, capturing all cost-effective energy efficiency, and delivering the value of energy efficiency to the NH economy.” (pg. 12)

NH Goal	Possible Metric
Market Transformation	<ul style="list-style-type: none"><li>• Market share of high-efficiency equipment/construction practices</li><li>• Customer awareness</li><li>• Program participation</li><li>• Number or % of participating trade allies</li></ul>
Cost-Effective Energy Savings	<ul style="list-style-type: none"><li>• Addressed by current metrics for lifetime energy savings and cost-effectiveness</li><li>• Consider a metric for comprehensiveness, e.g. depth of savings for target customers or # of projects with multiple measures</li></ul>
Deliver Value to NH Economy	<ul style="list-style-type: none"><li>• Financial leveraging (customer or third-party dollars invested)</li><li>• Total Resource Benefits (TRB)</li><li>• Economic development impacts</li><li>• Number of jobs supported by participating trade allies</li><li>• Savings or spending for projects serving low-income customers</li></ul>

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# Position for Future Success

- By 2020, several factors could make it more challenging and expensive to meet energy savings goals:
    - ❑ Rapid transformation of the LED market
    - ❑ Rising measure baselines
    - ❑ Many customers will have been served by 2020, and the remaining customers may be harder and more expensive to reach
  - At the same time, there are key opportunities to leverage EE programs to meet the needs of an evolving power grid:
    - ❑ Increased focus on reducing peak demand
    - ❑ Integrated delivery of EE, RE, and demand response (DR) programs
    - ❑ Beneficial electrification (heat pumps, electric vehicles) – ensuring that these new loads can be controlled for the benefit of the grid
    - ❑ Intelligent technologies and automated analytics that unlock new ways to capture savings from behavioral and operational changes
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# Position for Future Success

- The next three years are therefore a crucial period to position NH's energy efficiency programs for the future
  - Pilots may be helpful to test new sources of savings to compensate for declining lighting savings:
    - Emerging technologies like home energy management systems
    - Innovative behavior programs, such as pay-for-performance and strategic energy management, that measure energy savings in real time
    - Midstream programs for appliances and HVAC equipment
  - Pilots could also identify new ways for EE programs to deliver value:
    - Bundled delivery of EE, RE, and DR measures
    - Targeted installation of EE measures that reduce coincident peak demand
    - Including controls with installation of LEDs, water heaters, heat pumps, and EVs
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# PIs Can Help Drive Innovation

- For electric utilities, consider adding a metric focused on peak demand reduction. Options include:
    - ❑ Demand savings (KW)
    - ❑ Customer load factor (ratio of distribution sales during peak hours to distribution sales in all hours, by customer sector)
    - ❑ Coincident peak demand savings
    - ❑ Percentage of load that is responsive to load management
  - The current formula's focus on lifetime, rather than annual, savings could discourage utilities from pursuing behavioral and operational savings, which tend to have shorter lifetimes
    - ❑ Consider ways to incentivize utilities to aggressively pursue opportunities for behavioral savings given new technologies (energy management systems, smart devices, controls)
  - Consider a budget carve-out for R&D and innovation
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# Summary of VEIC Recommendations

Recommendations	Rationale
Raise minimum thresholds for PI and provide oversight to ensure that savings targets are sufficiently ambitious	Utilities should achieve savings at least 75-80% of target in order to be eligible for incentives
Base PI on budget rather than actual spending	Encourage utilities to achieve savings goals within the planned budget
Tier PI (e.g., 1% for savings from 75-90% of target, 1.75% for savings from 90-100%, 2.75% for savings >100%)	Encourage utilities to exceed targets by providing a higher PI % for exceeding target and a lower % for falling short
Eliminate higher PI for >55% of total savings from electric savings	Encourage comprehensive, fuel-neutral service
Maintain minimum threshold for cost-effectiveness but remove from PI	Given the desire to pursue all cost-effective savings, utilities should be encouraged to pursue all measures with ratios greater than 1.0, not just the most cost-effective measures

# Summary of VEIC Recommendations

Recommendations	Rationale
Add 2-4 additional metrics that align with key policy goals	Use performance incentives to encourage goals beyond energy savings, such as market transformation, comprehensiveness, low-income service, and/or peak demand reduction
Establish separate performance incentives for each metric, rather than linking them	Prevent utilities from compensating for underperformance on one metric with overperformance in another metric
Weight performance incentives appropriately	Give greatest weight to lifetime energy savings and less weight to newer metrics that are still being refined
Consider a budget carve-out for R&D and pilots	Given the importance of rapidly identifying new sources of savings and ways to deliver value, enable utilities to invest appropriately in pilots and innovation without placing performance incentives at risk

# Gradual Transition to New PI Framework

- The PI is paid annually, creating an opportunity to consider updates for 2019 and 2020

Year	Possible Timeline to Update PI Framework
2017	<ul style="list-style-type: none"><li>• Work with stakeholders to identify 2-4 new metrics to build into PI formula</li></ul>
2018	<ul style="list-style-type: none"><li>• Maintain current formula for 2018 PI</li><li>• NH utilities establish baseline performance for new metrics</li><li>• NH utilities recommend performance targets for 2019 and 2020</li></ul>
2019	<ul style="list-style-type: none"><li>• New formula goes into effect for 2019 PI</li><li>• Benefit-cost ratio removed from PI formula</li><li>• Formula gives 75% weight to lifetime energy savings and 25% weight to new metrics</li></ul>
2020	<ul style="list-style-type: none"><li>• Formula gives 50% weight to lifetime energy savings and 50% weight to new metrics</li></ul>

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# For More Information

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